REC **Letter USR 6**

Comments on the DSEIS by Connie Hoag

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ENERGY FACILITY SITE
EVALUATION COUNCIL

Thank you to the EFSEC for distributing the DSEIS and making it available to the public at the various public libraries.

General

p. 1-3 "With the broad interest of the public in mind, EFSEC assesses the need for a facility based on the specific characteristics of the proposal at hand, *without regard for permitted facilities or other proposed facilities*." [emph added] I find this statement disconcerting, as a site evaluation should include whether there are better sites, with fewer environmental impacts, which have applied and are available to fill any perceived need. Otherwise you may end up with a very undesirable plant being built, and a better, more desirable plant being shelved, simply because one applied first. This can also result in plants being approved which are not needed, and are permitted at technologies and standards that may be outmoded by the time the plant is built, if at all. I respectfully request the EFSEC to re-evaluate this stance. 1

Air

2.2.1 Project Description Changes not requiring analysis in this SEIS:
Section 2.2.1.3 Increase in SO2 Emissions. These increased considerably (see LePage prefiled p. 4 at 1-8), and due to SO2 associations with acid rain and health impacts, the significance of these increases should have been analyzed as part of this DSEIS, and not dismissed, simply because they meet standards. As the EFSEC is well aware, you can have significant impacts even if you meet standards, which is why we have a siting process, and intervenors, rather than just applying standards. It is also important to present this second revised application in perspective, since the applicant has touted the reductions in emissions due to removing the 15 days of oil firing, but has not spoken to the increases in SO2. 2

Water

Re: endangered fish (Table 2-1, p.2-9), please see testimony of Dakin, p. 3 at 17-23 "When the May Road wells were aquifer pump tested, it was possible to confirm that there was a reduction of flow from a nearby spring that discharged into Johnson Creek." Johnson Creek is a salmon-bearing stream. 3

Re: reverse osmosis, this process generally produces clean water and dirty discharge water. According to the DSEIS (Table 2-2, p. 2-13), the reduction in wastewater discharge is from 256 gpm down to 34 gpm. This is a huge reduction. Is this wastewater then more concentrated with pollutants? I do not find a discussion of the impact of a more concentrated effluent stream. If the effluent is not more concentrated, where do the other pollutants end up? 4
Additionally, SE1 stated during their permit process that they would utilize a zero-discharge system. However, it didn't work out as planned, and they ended up trucking wastewater to Bellingham, and later sending their discharge to Abbotsford. What contingency plans are in place if this proposal doesn't pan out?
The Abbotsford City Council voted recently to terminate the sewage contract with the City of Sumas. Where would this leave SE2?

3.2.3 *Discussion of environmental impacts of increased groundwater pumping* – no discussion about what this may do to Laxton and Judson Lakes, which are both spring and rain fed. 5

Figure 3.2-1 shows the anticipated zone of contribution travelling very close to these lakes, which are used by farmers for irrigation, as well as wildlife habitat.

3.2.5 Addresses impacts to the City's wells. However, no remedy for private wells drawing water from the same aquifer. It even points out the difficulty for an individual well owner: "Even if the nitrate concentration in a well changed after project start-up, it is unlikely that ascertaining the cause of the change would be possible." 6

p. 3.3-1 S2GF maximum demand (802 gpm). This does not match with the table on pg. 2-18 Cooling Water Makeup and Demand (833 peak)

Also, p. 2-18, table 2-3 Cooling Water makeup Demand: this shows a peak of 833 when temperatures are 59 and up. However, based on the increment of increase from 40 to 50 and 50 to 59, is this a realistic peak assumption for days that may be in the 80's or 90's? 7

3.3.2 "Applicant is committed to providing mitigation for *nearby* wells." However, if they are impacting *any* wells, particularly if a pattern can be demonstrated, they should be held responsible, regardless of distance. 8

p. 3.3-2 "SE2 has not yet provided sufficient hydrogeologic information to determine how much additional drawdown would occur in any particular location. Likewise, SE2 has not yet provided information to evaluate what the impact of a given amount of drawdown would have on the availability of groundwater to nearby wells, or to what extent the uses of any existing wells would be impaired by the increased pumping." As in other areas, the proverbial cart is before the horse. 9

It appears based on the premise: You give us the permit first, and then we will do the studies to tell you the actual impacts that can be expected. On page 3.3-1 the DSEIS states that "Wells in this aquifer tend to be relatively shallow." Then on p. 3.3-2 to 3.3-3 it states, "For shallow wells, drawdown is more likely to result in a reduction *or loss* of currently available well water." [emph added] It is logical to conclude that wells in this aquifer are at risk.

The mitigation discussed in the DSEIS does not cover wells outside the presumed zone of influence, other than to say that SE2 would perform " a controlled test of the two City well fields to confirm the zone of influence." If, however, a pattern developed of well levels dropping in the area, outside the projected zone, this too should be required to be mitigated, even if it did not show in their "controlled test."

Additionally, different locations and depths of aquifers can produce different levels of contaminants. Many wells in the area vary greatly in levels of rust and other contaminants. My neighbor has rust, I do not. In discussions of mitigation measures, no mention is made of replacing comparable quality of water, only quantity. No mention is made of the impacts that mitigation measures may have on other wells.

3.3.5 Significant Unavoidable Adverse Impacts

"Groundwater extraction for consumptive use would necessarily result in a reduction of the amount of groundwater available for wells and surface water discharge." Amen. However, noticeably lacking is any discussion of impacts to farmers and the agricultural economy, as well as effects on fish, wetlands, and lakes from reduced surface water discharge. 10

3.4.1.3 Existing Low Frequency Noise levels

"SE2 has not provided EFSEC with measurements of low-frequency noise levels at receivers near the project site." Why not?

"...both of these [existing industrial noise sources] are farther from the residential receivers that could be affected..." If the DSEIS is referring to residential *zones*, this is correct, however if they are referring to residences, it is not correct.

p. 3.4-3 Once again, it is noted, "SE2 did not provide the results of predictive modeling of the sound levels at the 32 Hz and 64 Hz octave bands." And "Data for the 16 Hz octave band were not provided by SE2." Why not? There was extensive testimony at the adjudicatory hearings regarding low frequency noise. This is obviously a concern of the community, and an impact of the current plant that will likely be exacerbated by a plant 5 times its size. 11

Additionally, "...the predicted A-weighted noise levels caused solely by the S2GF sources (not including background) met... noise limits set by regulations." However, the authors of the SDEIS fail to note that State noise regulations define these limits as from "any and all sources." (WAC 173-60-020(9)) This would include background. See also the definition of receiving area limits (WAC 173-60-020(13). SE2 would not meet this standard.

The DSEIS also fails to point out that the noise monitoring tables included in the second revised application fail to include the IKO roofing plant, which was constructed after the monitoring, and is a considerable source of noise and complaints in the area. This would further exacerbate noise limit exceedances. 12

The mitigation suggested by the applicant, and discussed in the DSEIS is very subjective. Given that the DSEIS states that "Noise at those frequencies can be annoying to some people even at relatively low levels that might not be discernible to other people standing nearby." (p. 3.4-1) "Low frequency noise can propagate through closed windows and lightweight walls typical of most homes," and "....annoyance from low-frequency noise usually occurs when the receiver is indoors where the background noise levels are low compared to the intruding low-frequency noise.", it is difficult to presume that "City and County noise regulation staff" will be able to "jointly agree" noise levels are "...reasonably objectionable." Staff will not be trying to sleep inside a home in the area. The DSEIS rightly concludes that "SE2's proposal to establish an environmental impact criterion for low-frequency noise "that City and County noise regulation staff jointly agree are reasonably objectionable," might not result in levels of low-frequency noise that are acceptable to residents near the S2GF." It would make more sense and provide greater assurance of protection for the public if an objective standard were set, such as the 30 dBA (A-weighted to disregard most LFN) or 45 dB (actual decibels, including LFN) that the World Health Organization recognizes as the level at which sleep disturbance occurs in indoor bedrooms (see testimony in previous adjudicatory hearings on SE2). 13

Because NESCO is fully aware of the testimony of neighbors and others regarding the impacts of noise from the current SE1 plant, and have chosen to do absolutely nothing to resolve or mitigate the problem, it is imperative that the noise issue be resolved with SE2 ***prior to permitting and construction.***

Thank you for your time and consideration.

Comments on the 401 Water Quality Certification by Connie Hoag

Due to time constraints, I am unable to fully comment on the 401 Water Quality Certification. I am hopeful that remaining items of concern will be addressed in the upcoming adjudicatory hearings.

I would like to address one item, however, which has been referred to repeatedly by the applicant, their consultants, and agency officials who are not familiar with the history of the local area. The wetlands which are referred to repeatedly as being "historically disturbed by agriculture" do not have a long history as such. These wetlands, according to local farmers, were forested wetlands until within the last 15 years, when the City of Sumas designated this area as an industrial area, and cleared it, about the same time as NESCO put in their original plant, known in these hearings as SE1, but operated by Calpine. After that time it was leased to a farmer. I do not think it is appropriate to allow lesser requirements, because it "has historically been farmed," when that is not really the history of the piece.

I also have concerns regarding Chromium VI. In the case of Erin Brokovich, involving the town of Hinkley, California, Chromium VI contaminated the groundwater. The PG&E Hinckley plant was a natural gas pumping station, with natural gas turbines, similar to a power plant. The Chromium VI is believed to have entered the groundwater through settlement ponds that were not adequately lined. If you have not seen the movie, I would encourage you to see it, just watch out for the bad language. The ponds were apparently to hold the sludge from the cooling towers. The Chromium is believed to have been used as an anticorrosive in the cooling towers. SE2 states that it will be using a "proprietary substance" as an anticorrosive in the cooling towers. The DOE reports that wastewater from the SE1 plant contained chromium (which includes Chromium VI and Chromium III) and zinc (Please see attached). Yet, SE2 has refused to acknowledge that they plan to employ Chromium VI in their "proprietary substance," and state that the cooling tower sludge will not be considered hazardous, and will be landfilled. Chuck Martin also states in publications that the wastewater from SE1 is benign, even though DOE has documented numerous heavy metals.
I would like to know whether Chromium VI will be used, and whether it will be in the wastestream that ends up in the Fraser River, and where they plan on landfilling the cooling tower sludge. I believe, based on the effluent from SE1, and the experience at the Hinckley plant that EFSEC should require that the sludge be treated as hazardous waste, in order to protect groundwater.

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Thank you for your time and consideration of this important health issue.

ABBOTSFORD (MetroValley News Group) - Heavy metals such as chromium
>and zinc were detected in waste water from Sumas Energy 1 (SE1) five years
>ago, but testing stopped as soon as SE1 began discharging effluent to Canada
>three years ago.
> Now, questions have arisen as to what exactly has been pouring into
>the Fraser River during the past three years.
> The power plan was required by law to provide a test for heavy
>metals by an independent lab in Washington state every three months but ever
>since SE1 (Calpine Corp.) started discharging effluent to Canada, no such
>test was requested by Fraser Valley authorities.
> Jeanne Tran, Washington state facilities manager for the Department
>of Ecology (DOE), said she was concerned about SE1's industrial waste water
>that was originally trucked to the City of Bellingham sewage plant and
>discharged into the Pacific Ocean.
> "Secondary sewage plants are not designed to treat metals, they're
>designed to treat domestic effluent," said Tran. "I'm concerned about
>industrial users and I want to know exactly what metals are in their
>effluent."
> When SE1 applied for a Washington State DOE permit in the mid-'90s,
>she required the company to provide a complete "waste water
>characterization" report, including tests for heavy metals by an independent
>lab.
> Concentrations of heavy metals like chromium, lead, nickel and
>mercury were identified in the SE1 waste-water storage tanks.
> "Chromium is an anti-corrosion product and the company was required
>to report total chromium, which includes chromium 3 and chromium 6. I
>thought the Sumas numbers were fairly high," said Tran. The level of total
>chromium was .049 parts per million (ppm), indicating the potential to
>exceed safe water quality standards that were set at 0.2 ppm for ocean
>discharge, she said.
> If the power plant discharged into a fresh-water body in Washington
>state, she estimates an acceptable concentration level for total chromium
>would be roughly .016 ppm, depending on the water hardness. The Fraser River
>is a fresh-water body.
> Chromium 3 (trivalent) occurs naturally in the environment and tends
>to be harmless, while chromium 6 (hexavalent) is a known toxic carcinogenic
>chemical used in water treatment industrial processes.
> Tran said she tested for total chromium which identifies both types
>in the waste water, but did not break it down.
> She required SE1 to take tests monthly for six months to determine
>that the amounts of chromium and zinc were acceptable. Then, she reduced the
>frequency of the heavy metal test from its storage tanks to once every three
>months, starting on May 13, 1997.
> In addition, SE1 had to have a complete test of "126 priority
>pollutants," including PCBs, organochlorine pesticides and a host of other
>inorganic pollutants, once a year.
> SE1 was compelled to pay for all of the monitoring tests, according
>to its permit.
> That testing and monitoring stopped when the waste water starting
>flowing across the border in 1998.
> "We stopped sampling as soon as it started going to Abbotsford,"

>said Tran. "The effluent will not affect our state, so legally it's not in
>our jurisdiction. We don't care, because it's in Canadian jurisdiction."
> SE1's flow of waste water to the Canadian side of the border,
>however, entered into a "heavy metal" monitoring void.
> The City of Sumas - with Sumas Energy executives as corporate
>supporters - signed a contract on Nov. 24, 1997 with the City of Abbotsford
>and the Fraser Valley Regional District (FVRD) to discharge up to 400,000
>gallons of effluent daily to the JAMES (Joint Abbotsford- Mission
>Environmental System) sewage plant.
> The agreement has been a sore point with the Fraser Valley public,
>because of subsequent widespread opposition to SE2.
> The contract is missing language that specifies requirements for
>independent lab monitoring and testing at industrial companies in the U.S.,
>such as SE1.
> Canadians only have access to a main monitoring point in Sumas,
>which combines all the waste water from the town, but not to SE1.
>

Of particular interest:
BATES: (Check out his impressive credentials)
p.2 at 21-23: New studies published since last fall "...confirm the other studies already cited in the record which establish that serious health effects do occur below the regulatory standards."
p.2 at 26, 3 at 1-2: "...the facility's proposed additions to background pollution levels can be expected to increase the incidence of adverse health effects."
p.3 at 3-5: "...M. Petrovic's [SE2's witness] testimony is at odds with the vast body of scientific literature that indicates that there is no threshold below which these pollutants do not cause health problems and that, as these pollution levels increase, so does the risk of adverse health impacts."
p.3 at 16-22: results of an Atlanta study that showed a 20 ppb reduction in ozone levels associated with a 35 percent reduction in hospital admissions of children with asthma. At all times, both before and after the reduction, the ozone levels were below both the current US and Canadian standards for ozone.
p.4 at 16-19: results of a study of 6,000 school children in Los Angeles. "...found that an increase of 20 ppb of ozone was associated with an increase of 62.9 percent for illness-related absent rates, 82.9 percent for respiratory illnesses, 45.1 percent for upper respiratory illnesses, and 173.9 percent for lower respiratory illnesses with wet cough."
P.4 at 20-24: results of a Boston study "reported a highly significant association between the occurrence of acute heart attacks in 772 individuals and the level of particulate pollution."
p. 4 at 25-27: "...I notice that in this part of her testimony, Ms. Petrovic cites no studies (old or new) to support her assertion that increases in pollution do not increase health risks."
p.5 at 19-23: Because of an error in the earlier application the current application shows a large increase in the emissions of sulphuric acid mist and sulphur dioxide. "Thus, these new, higher emission levels for sulphuric acid mist and sulphur dioxide would be expected to have an adverse effect on health."
p.5 at 24-25 "ESSENTIALLY THE MAGNITUDE OF THE ADVERSE HEALTH EFFECTS THAT SUPPORTED THE COUNCIL'S CONCLUSIONS LAST TIME REMAIN VIRTUALLY THE SAME." [emphasis added]
LEPAGE:
p.3 at 5-8: "The Second Revised Application (and the Applicant's Pre-Filed Testimony) fails to analyze the peak emissions from start-ups and shut-downs. For some pollutants (NOx, CO and VOC's), the maximum short-term emissions will not be reduced to the extent indicated in the application, and may even be higher than those previously considered by EFSEC."
p. 4 at 1-8: TABLE OF COMPARISONS between the application considered by EFSEC in its denial (no. 754) and the current application, showing percentage of increase and decrease for certain pollutants.
p.5 at 4-7 "Taking account of all these factors, the maximum annual average pollutant concentrations for at least NOx, VOC's and CO could be equal or higher than those presented in the former application."
p. 6 at 19-26 "SE2 claims a 33 percent reduction in NOx emissions when burning natural gas, but really there is no reduction at all."
p. 9 at 3-5: "The changes and related analyses provide no basis for concluding that there should be any change to the Council's previous conclusions."
DAKIN:
p.3 at 4-6 "The City of Sumas' groundwater specialist (Robinson & Noble, Inc.) has provided preliminary information that shows a well located as far as 5,500 feet from the well field could experience one foot of drawdown when the well fields are in operation."
p. 3 at 17-23: "When the May Road wells were aquifer pump tested, it was possible to confirm that there was a reduction of flow from a nearby spring that discharged into Johnson Creek."

"SE2's proposed withdrawals from this aquifer are very large in comparison to the city's exiting withdrawals. There is a clear potential for those withdrawals to decrease surface water flows in the Sumas River and its tributaries."

CATON:

p.2 at 22- p.4 at 18: Points supporting the argument that "The project modification in the Second Revised Application cause little reduction in projected emissions from the facility and little reduction in the resulting air quality impacts."

p.3 at 3-4: "The applicant is wrong in claiming that the current proposal to emit NOx at a rate of two parts per million represents a 33 percent reduction from the project considered by the Council in Order No. 754."

p.4 at 18: The increases in air pollution caused by SE2's emissions will result in adverse health effects."

p. 7 at 18-25: Explanation of increase in SO2 and sufuric acid emissions. "This increase exceeds the reductions of sulfur oxides associated with removing oil firing, leading to a substantial net increase. Both of these pollutants will also add materially to the ambient PM10 or PM2.5 loadings through formation of secondary particulate matter. The original error in estimating sulfur oxide emissions is not even acknowledged in Hansen's [SE2's air witness] testimony. One has to read the Second Revised Application in detail to find it in the PSD analysis."

p.12 at 4-6: "Effects of PM and ozone especially on the elderly, children, and asthmatics of all ages have been confirmed by unassailable analysis..."

P. 14 at 21-27: Summary of BPA air modeling report on cumulative impacts of proposed power plants, and the estimate that only one-quarter to one-third of planned plants will be viable. "It would appear that an EFSEC decision to respect the Province's concerns about siting this plant at this particular location doesn't represent a constraint on future energy, given the number of proposals available."

p.17-20: Response to Chuck Martin's suggestion that Canadian authorities have not been aggressive in tackling air pollution.